

REMARKS

Claims 1-20 are currently pending in the subject application. Claim 1 is the sole independent claim.

Claims 1-20 are presented to the Examiner for further prosecution on the merits.

A. Introduction

In the outstanding Office action, the Examiner rejected claims 1-7, 10-15 and 17-19 under 35 U.S.C. § 102(b) as being anticipated by WO 01/43857 to Ehrfeld et al. (“the Ehrfeld et al. reference”), and rejected claims 8, 9, 16 and 20 under 35 U.S.C. § 103(a) as being unpatentable over the Ehrfeld et al. reference in view of U.S. Patent No. 6,001,267 to Os (“the Os reference”).

B. Asserted Anticipation Rejection

In the outstanding Office action, the Examiner rejected claims 1-7, 10-15 and 17-19 under 35 U.S.C. § 102(b) as being anticipated by the Ehrfeld et al. reference. Applicants respectfully traverse this rejection, and respectfully submit that the Examiner failed to set forth a *prima facie* case of anticipation for at least the reasons set forth below.

Claim 1 recites, in part,

a manifold disposed between the wall of the reaction chamber and the injector, for supplying the reactive gas flowing through the gas inlet to each of the plurality of nozzles; and

bifurcating gas channels arranged on at least two levels in the manifold, the at least two levels equalizing lengths of gas paths connecting the gas inlet to the plurality of nozzles,

wherein all surfaces defining the gas channels have a full extent defined by a surface of the injector and a surface of the reaction chamber

In the outstanding Office action, the Examiner asserted that the Ehrfeld et al. reference teaches a gas injection apparatus “wherein all surfaces (surfaces constituting 5, 2/3, and 4a) defining the gas channels (“bifurcations” conduits; Abstract, not labelled, Figure 2a, b) have a full extent defined by a surface of the injector (2,3, Figure 2a, b) and a surface of the reaction

chamber (inside surface of 1, Figure 2a, b) as claimed by claim 1.” *Office action of July 13, 2006, at paragraph no. 2, page 3.* Applicants respectfully disagree with this characterization of the Ehrfeld et al. reference, and respectfully submit that the Ehrfeld et al. reference fails to disclose, or even suggest, each and every element of claim 1.

In particular, applicants respectfully submit that the Ehrfeld et al. reference clearly shows that the bifurcations in Figures 2a and b are entirely defined by the pie-shaped segments 2. In detail, referring to FIG. 1c of the Ehrfeld et al. reference, the bifurcations are carved in a face of a first pie-shaped segment 2. A second, adjacent pie-shaped segment 2 forms an opposing face for the bifurcations, such that, when combined, the *full extent* of the bifurcations is defined *only* by the two adjacent pie-shaped segments 2.

Moreover, contrary to the Examiner’s assertion, the inner surface of the reaction chamber 1 in Figures 2a and b of the Ehrfeld et al. reference does not define *any portion* of the bifurcations, as clearly shown by the heavy black lines that outline the inner surface of feature 1 in Figures 2a and 2b, below:

Figure 2a, the Ehrfeld et al. reference

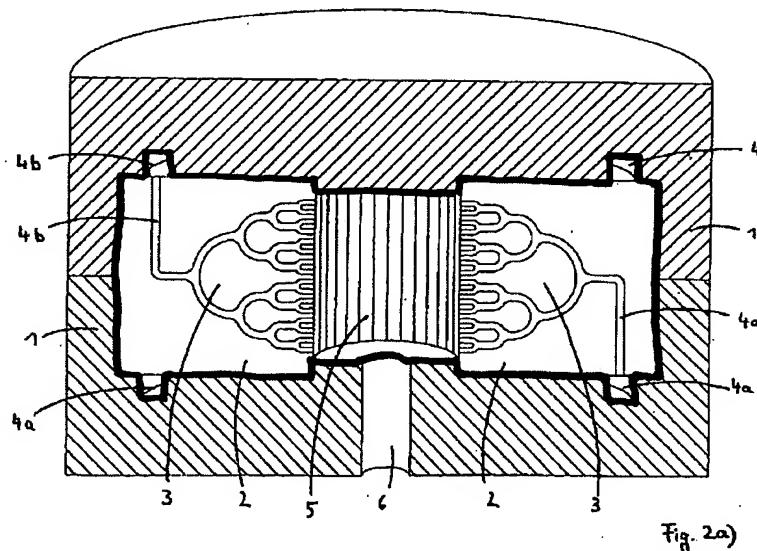


Figure 2b, the Ehrfeld et al. reference

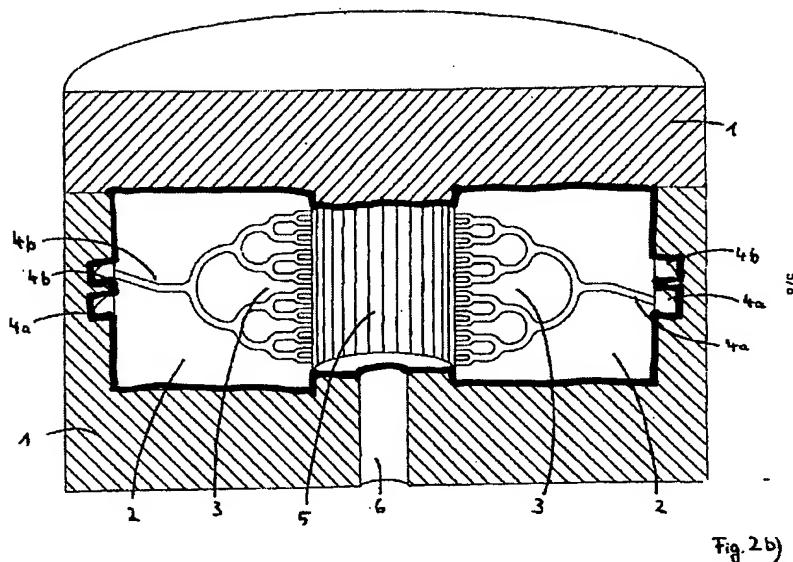


Fig. 2 b)

Therefore, since the Ehrfeld et al. reference teaches that the segments 2 fully define the bifurcations, and since the inner surface of the reaction chamber 1 does not define any of the bifurcations, the Ehrfeld et al. reference fails to teach "bifurcating gas channels . . . wherein all surfaces defining the gas channels have a full extent defined by a surface of the injector and a surface of the reaction chamber," as recited in claim 1.

In view of the above, applicants respectfully submit that the Ehrfeld et al. reference fails to disclose, or even suggest, each and every element of claim 1. Accordingly, claim 1, as well as claims 2-20 depending therefrom, are believed to be allowable over the Ehrfeld et al. reference. Therefore, applicants respectfully request that this rejection be withdrawn and a notice of allowance be provided.

C. Asserted Obviousness Rejection

In the outstanding Office action, the Examiner rejected dependent claims 8, 9, 16 and 20 under 35 U.S.C. § 103(a) as being unpatentable over the Ehrfeld et al. reference in view of the Os et al. reference. Applicants respectfully traverse this rejection, and respectfully submit that

the Examiner failed to set forth a *prima facie* case of obviousness for at least the reasons set forth below.

Claims 8, 9, 16 and 20 depend from claim 1, which is believed to be allowable over the Ehrfeld et al. reference as discussed above. Further, applicants respectfully submit that the Os et al. reference fails to provide the teachings noted above as missing from the Ehrfeld et al. reference. Accordingly, the proposed combination of the Ehrfeld et al. and Os et al. reference fails to disclose or suggest each and every element of the rejected claims. Therefore, claims 8, 9, 16 and 20 are believed to be allowable over the proposed combination of the Ehrfeld et al. and Os et al. references, and applicants respectfully request that this rejection be withdrawn and a notice of allowance be provided.

D. Conclusion

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying papers may also be charged to Deposit Account No. 50-1645.